

1 ABSTRACT OF THE DISCLOSURE

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3 Distortion discrimination circuitry for digital radio receivers and corresponding
4 methods are disclosed that accurately and efficiently discriminate distortion events, including
5 impulse noise and multipath distortion events, to improve the quality of audio output signals.
6 The distortion discrimination circuitry monitors and analyzes the demodulator output to
7 determine when a distortion event has occurred and provides an appropriate indication signal
8 for use by other circuitry within the radio receiver. More particularly, the distortion
9 discrimination circuitry includes impulse noise circuitry that looks for high frequency noise
10 in both the magnitude and multiplexed outputs of the demodulator to determine the
11 occurrence of impulse noise distortion events. The distortion discrimination circuitry also
12 includes multipath circuitry that looks for a drop-off in signal power between the multiplexed
13 output of the demodulator and a moving average version of that same signal to determine the
14 occurrence of multipath distortion events. In addition, stereo decoder circuitry modifies the
15 audio output signals in response to indications of distortion events.

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